

SALES TAX RENEWAL COMMITTEE  
FINAL REPORT

APRIL 2013

FINAL REPORT

RESPONSE TO CHARGES

EXHIBIT A  
STATUS REPORT: KEEPING OUR COMMITMENT

EXHIBIT B  
QUICK LOOK: FACTS AND FIGURES

EXHIBIT C  
MILLIMAN MEMOS

CALENDAR

TAB 1

Final Report

## SALES TAX RENEWAL COMMITTEE FINAL REPORT

April 2013

The Sales Tax Renewal Committee was established as a sub-committee of the Board of Trustees of the City of Springfield Police and Firefighters Retirement System to review the existing  $\frac{3}{4}$  cent sales tax and to make a recommendation regarding its renewal.

The first  $\frac{3}{4}$  cent sales tax was passed in November 2009, has a five year life and will expire in November 2014. Through March 2013, the Fund has received over \$66 million in revenue which has been the key to the increase to today's funded ratio of 65%. Prior to the passage of the sales tax, our funded ratio was 36%.

While pension plans throughout the country have all experienced a decline in assets and funded ratios, our plan stands among few with its uniqueness. We are a "closed" plan. Closed as of July 1, 2006, means we add no new participants and make no changes in benefits. All liabilities to our participants must be paid for by return on existing asset investments, employee and employer contributions and since May 2010, sales tax proceeds.

The latest actuarial reports estimate that \$356 million is required to pay our liabilities to our participants. Currently, plan assets stand at \$240 million or a shortage of \$116 million. Employer and employee annual contributions average \$11 million; annual payments to retirees and return of contributions, \$19 million. Without the sales tax revenue the City would ultimately be responsible for making up these shortages.

Fund returns have fluctuated in recent years from -19.10% in 2009 to .6% in 2012. Additional diversification of Fund investments was begun in late 2012 and will be completed in 2013. The purpose of this diversification is to lessen the volatility experienced in the past. Without the sales tax revenue, our fund value would not have increased but in fact decreased over the same time period. The alternative is for the City to increase their contributions to cover all additional required monies.

We asked our actuary, Milliman, to run several scenarios to determine the impact of future sales tax revenue on the funded level. With a renewal of the existing  $\frac{3}{4}$  cent tax, and a 7.5% assumption rate, we would achieve 100% funding in 2019 or one year prior to the expiration of the renewed five year tax. Even if this assumption rate is lowered to 7.0%, which is a real future possibility but not currently recommended, we would reach 100% funding a year later in 2020.

We anticipate 100% funding can be achieved during this renewal. With these sales tax monies used to fund our Unfunded Liability, the City would not have to reduce services in order to find the resources necessary to fund the required contribution(s). The committee does however, encourage the City to

give this Unfunded Liability a priority and to develop a plan for funding necessary future contributions that may be required.

The committee unanimously feels the ¾ cent sales tax renewal is the best funding option for the City of Springfield. It also encourages the immediate start of the campaign to bring this renewal to fruition.

Please see the attached "Responses to Charges" for a more detailed description of our findings.

Committee Members:

Jerry Fenstermaker, Chairman  
Adam Carter  
Charles Cowherd, Board President  
Ron Hoffman  
Ken Homan, Immediate Past Board President  
Janell Manley, Executive Director  
Cindy Rushefsky  
Scott Steck

TAB 2  
Response to  
Charges

RESPONSES TO CHARGES FOR POLICE-FIRE PENSION FUND SALES TAX COMMITTEE  
APRIL 2, 2013

The Sales Tax Renewal Sub-Committee of the Police & Fire Pension Board has been charged to make recommendations to the Board regarding the renewal of the ¾ cent sales tax and was asked by the City Manager to respond to a series of questions. The responses to those questions are detailed on the following pages.

QUESTION 1: What is the current status of the Police-Fire Pension Fund (expressed as a dollar amount and as a percent funded)? How does this compare to 2009, before the tax was passed (expressed as a dollar amount and as a percent funded)? How much progress has been made?

REPLY:

A summary of valuation dates and funded ratios are listed below.

(In Millions)	<u>6-30-2009</u>	<u>6-30-2010</u>	<u>6-30-2011</u>	<u>6-30-2012</u>	<u>12-31-2012</u>
Asset Market Value	\$ 112.4	\$ 139.6	\$ 191.2	\$ 211.9	\$ 230.8
Accrued Liability	316.7	328.0	340.2	356.3	356.3
Unfunded Liability	169.5	167.7	156.7	144.9	125.6
Funded Ratio	35.5%	42.5%	56.2%	59.5%	64.8%

As evidenced above, our funded ratio has increased from 35% in 2009 to 65% in December 2012, an increase of 30%. Our Unfunded Liability has decreased from \$169.5M to \$125.6M, a decrease of \$43.9M.

QUESTION 2: Does the subcommittee recommend that the City keep its commitment to retired Police Officers and Fire Fighters and future retirees?

REPLY:

Yes. The subcommittee believes that this commitment to its Police and Fire personnel should be kept.

There is unanimous feeling among the committee members that this "closed" fund obligates the City and taxpayers to seek ways of funding the remaining liability. This includes the upcoming proposed extension of the tax, which the committee feels is necessary.

QUESTION 3: Does the subcommittee recommend the market value or actuarial value of the fund be used to communicate with City Council and the citizens of Springfield, and why?

REPLY:

The committee believes the market value should be used in communications with all parties. This value is readily available to anyone and can be obtained easily. This is the value used in reporting by all Investment Managers and can be compared to similar plans and other investments held by Springfield citizens.

The actuarial method serves as a guidepost based on statistical assumptions which aid the Board of Trustees in selecting the target Return on Investments going forward. It also assists in developing the Investment Plan Strategy and finding Investment Managers that can fulfill the Plan goals.

QUESTION 4: What level of funding does the subcommittee feel should be attained before the tax sunsets? How much is this (expressed as a dollar amount and as a percent funded)? How and when should attainment of this level of funding be communicated to the City and Springfield citizens?

REPLY:

The tax should sunset when 100% funding is obtained. In today's valuation, this would be equal to \$ 356.3 M.

It is important to note that 100% funded will only be applicable to that day in time and that market value. As the active employees continue to decrease and retirees increase, investment strategies will

need to change to provide a more conservative outlook. As this investment risk decreases, so will the return to the Fund (currently at 7.5%). Therefore, an ongoing evaluation of risk/return components will need to be an important function of future Boards to determine appropriate changing investment vehicles for the makeup of the fund.

It is important to make sure that all communications to Springfield citizens will need to make note of the evolving makeup of the fund's retiree and investment base and as a result, the funded ratio.

QUESTION 5: What is the status of City Council's eight commitments to the citizens prior to the November 2009 election? Has City Council kept its commitments?

Consult with the Citizens' Sales Tax Oversight Committee to determine whether the City has applied 100% of the net revenues from the Police-Fire Pension Tax to the Police-Fire Pension Fund.

REPLY:

City Council has kept its commitments. The Oversight Committee recently issued a report saying that all tax monies are correctly accounted for and in their proper accounts.

(See Appendix A for a status of the eight commitments.)

QUESTION 6: What if the Pension Board elects not to pursue a renewal of the existing tax? What is the likely scenario that will occur?

REPLY:

The growth of the Pension Fund is dependent upon a) employee and employer contributions and b) investment returns. The employee and employer contributions, under current commitments of the City, will continue to decline as more participants go from active to retired. The investment returns are market driven and have been at historically low levels for several years. If these conditions continue to exist, eventually there will not be sufficient funds to pay all the eligible participant pensions. Currently without the sales tax revenue, the City of Springfield would need an additional \$8 million annually just to make its required payments to its police and fire retirees!

The alternative is to increase the employee and employer contributions to "make up" for the dollar amounts of the pension sales tax. This is about \$ 28 million a year and is a painful alternative and would be cost prohibitive for all parties involved.

Please see the "Appendix B: Facts and Figures" attached. As indicated, the contributions and investment earnings do not always cover the cash needed for required benefit payments and ROC's. Without the sales tax revenue, the fund will continue to decline until it is no longer capable of making its payments to beneficiaries.

QUESTION 7: What impact, if any, will the fact that the City-owned pension fund is "closed" have on future investment decisions, future anticipated rates of return on investment, and the overall "health" of the City-owned pension fund?

REPLY:

Over time, the investments will become more conservative in order to match the Plan's liabilities with the cash flows. Accordingly, the rates of returns will decline. As this occurs, it will become imperative that the assets are enough to fund the retiree checks since the returns the Plan is hoping to generate will be much lower than those in a higher-risk investment. In the event projected Rates of Return are below expectations, the Fund will require additional money!

Based on Year End 2012 Fund data, Milliman developed up-to-date projections (Appendix C) for the term of the Plan using various discount rates from 6.5% to 7.5% including, assumptions of sales tax collection and City contributions. The current 7.5% discount rate again shows that the sales tax must be extended to 2019 to become fully funded. Moving to a 7.0% discount rate, the projections indicate the Plan to become fully funded in 2020 and remain so thereafter. At 6.5% discount, the Fund never reaches full funding, all assumptions remaining constant. The subcommittee and subsequently the Board of Trustees, have reaffirmed the 7.5% discount rate for 2013. Our five year experience study is scheduled for June 2014 and a lowering of this discount rate may very well be recommended then.

QUESTION 8: If the subcommittee's recommendation is to endorse a renewal of the existing tax, approximately how long does the subcommittee feel the renewed tax will need to be in place to reach the intended goal?

REPLY:

Preliminary reports indicate that using the current discount rate of 7.5% for the first few years and then anticipating a decrease in this rate over time as the fund becomes more conservative, the tax will need to be in place for the full five year renewal period.

Additional reports showing various alternatives will continually need to be analyzed during the coming years.

QUESTION 9: How is the best way to “tell our story” to the citizens of Springfield?

REPLY:

The committee feels it is of utmost importance that all people associated with this renewal tell the same story. That is, once a decision is made that everyone uses the same data, same actuarial outputs and same talking points. Consistency and accuracy should be the goals. The citizens are entitled to a transparent factual presentation of the whole picture of their Fund. Talking points should be available to all involved so that citizens have the most current, accurate data available for their evaluation.

Building upon the success of the first tax passed, it was extremely helpful to have plan participants, i.e., police and fire personnel, present for public conversations. They were invaluable to the tax passage and should be used again as their schedules permit.

We recommend that a campaign manager be put into place and a full schedule of activities commenced immediately including fund-raising for the campaign. Communications from the Board to the public each quarter should begin now and the full campaign plan can become a work in progress beginning in the first quarter 2013.

QUESTION 10: If a renewal is recommended, when does the subcommittee recommend the City place the renewal on the ballot for consideration by the voters of Springfield?

REPLY:

The April 2014 ballot is recommended. If the April 2014 vote is not favorable, then the issue should be reintroduced on the November 2014 ballot.

QUESTION 11: Should the City make any type of commitment not to increase benefits or make any other type of commitment prior to seeking voter approval for a tax renewal?

REPLY:

The committee feels it is important for the citizens to know all the “facts” up front. The City has already passed an ordinance committing to an employer contribution of 35% during the time of the tax should it be renewed. No benefit increase(s) to the Police and Fire Retirement System is another commitment we believe should be made to the citizens as well.

The City also promised not to request any additional taxes during the term of the first sales tax. As we understand it, this promise cannot be made this time as Federal mandates and funding sources have changed and are not available as they were previously.

One concern that citizens may have is “overfunding”, whereby the fund is sustainable at over 100% funded after the Plan has made provisions for paying all of its participants. The committee feels that language similar to below could be used to alleviate this concern. We propose that the following be considered for inclusion in the ballot language.

“No funds or assets of the Police Officer and Firefighters Retirement System (the “System”) will be spent or used for any purpose other than to satisfy the City’s obligations to the Participants under the System and to pay expenses approved by the Board of Trustees for the administration of the System. Any funds or assets of the System remaining after all such obligations have been completely satisfied and all such expenses have been paid shall be refunded to the taxpayers of the City of Springfield in such manner as the City Council at that time shall determine or shall be applied to any general obligation bond of the City of Springfield then outstanding.”

Included:

Exhibit A – Status Report: Keeping our Commitment

Exhibit B – Facts and Figures 6-30-09 thru 6-30-12

Exhibit C – Milliman March 11, 2013 Memo

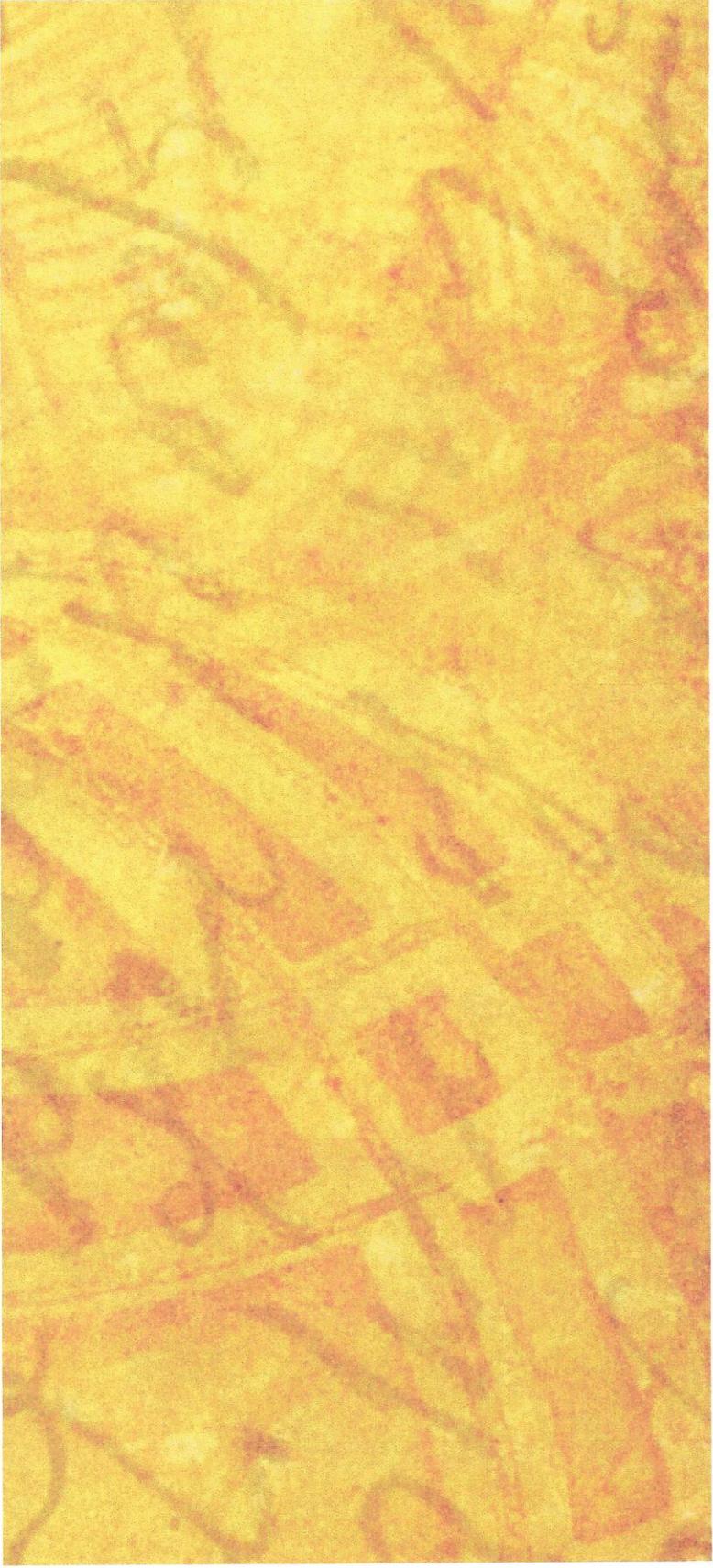
Milliman March 15, 2013 Memo

TAB 3  
Exhibit A



# Status Report: Keeping Our Commitment

City Council's 8 Commitments to Citizens: Police-Fire Pension Fund Tax  
Report to City Council, September 24, 2012



# Commitment #1

- Commitment to use Police-Fire Pension Fund tax “exclusively for the funding of the Police Officers’ and Fire Fighters’ Retirement Fund.” “Said tax will continue for a period of five (5) years, and will likely require at least one five-year renewal in order to sufficiently fund the pension system for the long term.”
- Status: Commitment being met and continuing
  - Citizens’ Sales Tax Oversight Committee verifies these funds are being used only for the pension system

# Commitment #2

- “The City will contribute 35.00 percent (6.12% higher than the traditional 28.88% contribution) of the Police and Fire Tier I employee payroll, in addition to the revenues created by the ¾-cent sales tax, into the pension system during the life of the tax.”
- Status: Commitment being met and continuing

# Commitment #3

- “Tier I employees will increase their contribution to the pension fund from the current 11.35 percent of their gross pay by an additional 2 percent to a total of 13.35 percent” while the tax is in effect.
- Status: Commitment being met and continuing

# Commitment #4

- “All new police officer and fire fighter hires will be enrolled in the State’s LAGERS retirement system, the City’s existing self-funded pension plan will be closed to future hires, and police officers and fire fighters hired after July 1, 2006 will be offered the option of voluntarily migrating from the City’s self-funded plan into LAGERS.”
- **Status: Completed**
  - All new hires are enrolled into LAGERS
  - City’s self-funded plan was closed
  - Hires after July 1, 2006 were offered option to voluntarily migrate to LAGERS. 100% elected to do so.

# Commitment #5

- Contribute all net, lump-sum telecommunication lawsuit settlement funds into the Police-Fire Pension Fund until the fund is 100% funded.
- Status: Completed
- Total settlement funds deposited: \$24,471,989.10

# Commitment #6

- “Restructure the Pension Board to address potential conflict-of-interest issues.”
- Status: Completed
- City Council restructured the Police-Fire Pension Board on February 1, 2010

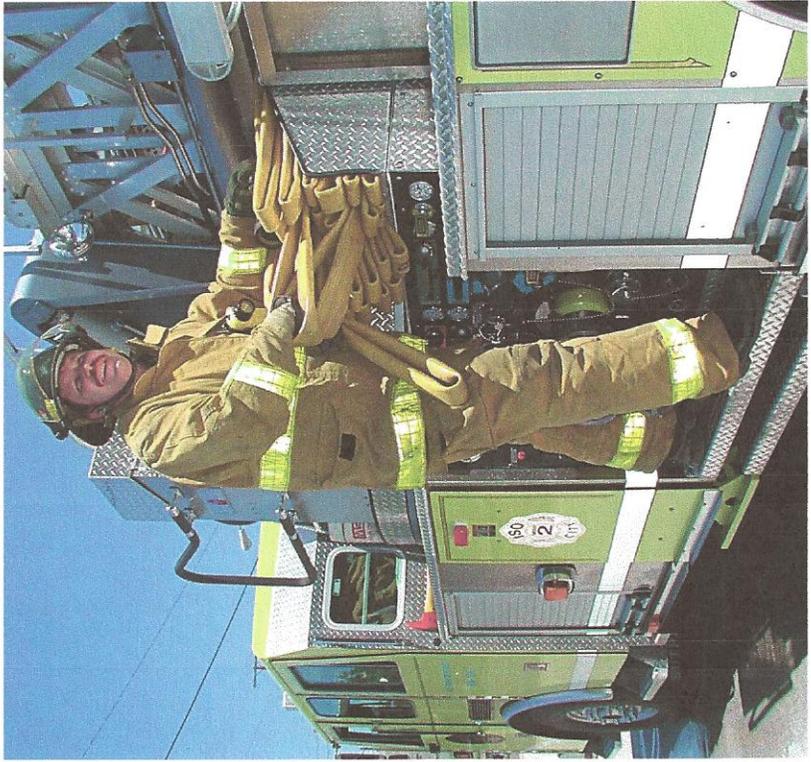
# Commitment #7

- The City will “market and sell any unused property, when possible and practical, and invest the net General Fund proceeds from the sale of property into the Pension Fund.”
- Status: Commitment being met and continuing

# Commitment #8

- “The City will not seek any new city-wide tax proposals during the first five years of the tax. This does not apply to any renewal of existing taxes, nor does it apply to any joint tax proposals with Greene County, nor any unfunded State or Federal mandates.”
- Status: Commitment being met and continuing

# Questions?



TAB 4  
Exhibit B

QUICK FACTS AND FIGURES - 6-30-2009 THRU 6-30-2012  
 POLICE & FIRE PENSION FUND - CITY OF SPRINGFIELD

( in millions)	<u>6/30/2009</u>	<u>6/30/2010</u>	<u>6/30/2011</u>	<u>6/30/2012</u>
CONTRIBUTIONS	\$ 26.92	\$ 29.09	\$ 10.85	\$ 10.85
SALES TAX PROCEEDS	\$ -	\$ 5.59	\$ 26.28	\$ 27.87
PAYMENTS	\$ 15.08	\$ 16.17	\$ 16.60	\$ 17.37
ROC	\$ 2.40	\$ 1.24	\$ 1.32	\$ 1.81
INVESTMENT EARNINGS	\$ (26.54)	\$ 10.55	\$ 31.97	\$ 2.07
MARKET VALUE	\$ 112.37	\$ 139.55	\$ 191.17	\$ 211.91
ASSUMED RR	7.50%	7.50%	7.50%	7.50%
ACTUAL RR	-19.10%	8.70%	21.70%	0.60%
ACTIVE PARTICIPANTS	481	406	394	373
RETIRED PARTICIPANTS	486	493	497	506
% ACTIVE	49.70%	45.20%	44.20%	42.20%

TAB 5  
Exhibit C



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## MEMORANDUM

TO: Janell Manley  
FROM: Mike Zwiener <sup>MZ</sup> & Mike Sudduth <sup>MS</sup>  
DATE: March 11, 2013  
RE: *Springfield Police & Fire Pension – Funded Ratio Projections Updated for Information Requested after February Meeting*

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This memo summarizes the results of three additional projection scenarios requested in response to our projections from February 2013. The scenarios are updated to illustrate the effect of ending the sales tax once the Plan's funding level reaches 100%. We will also provide some discussion regarding the future projections of the AFC, as requested.

### Assumptions and Methods

We utilized the following assumptions and methods:

- Liabilities, assets, and benefit payments were projected using the results of the 2012 actuarial valuation report.
- Employer contributions are projected to be 35% of payroll (only Tier 1 participants who remain in the Plan). Employee contributions are projected to be 14.63% of the same projected payroll, effective July 1, 2013, which is up from the current rate of 13.35%.
- Future sales tax receipts are projected assuming an annual increase of 1% over the year end June 30, 2012 amount.



## New Scenarios

We have prepared 3 additional scenarios. Exhibit 1 combines the results of all 3 scenarios in graph form. Exhibits 2-4 show the results of each scenario in tabular form. The scenarios are as follows:

- Exhibit 2 shows the results assuming that the discount rate and investment return are 7.5%. The sales tax is assumed to expire on June 30, 2019 when the Plan reaches 100% funding under this scenario.
- Exhibit 3 shows the results assuming that the discount rate and investment return are 7.0%. The sales tax is assumed to expire on June 30, 2020 when the Plan reaches 100% funding under this scenario.
- Exhibit 4 shows the results assuming that the discount rate and investment return are 6.5%. The sales tax is assumed to expire on June 30, 2022 when the Plan reaches 100% funding under this scenario.

## AFC Analysis

The current AFC rate effective July 1, 2013 is 6.13%, and is added to the base employee contribution rate of 8.50% for a total employee contribution rate of 14.63%. The AFC is required to be calculated every 3 years as described in our November 7, 2012 memo outlining our calculation of the current AFC rate.

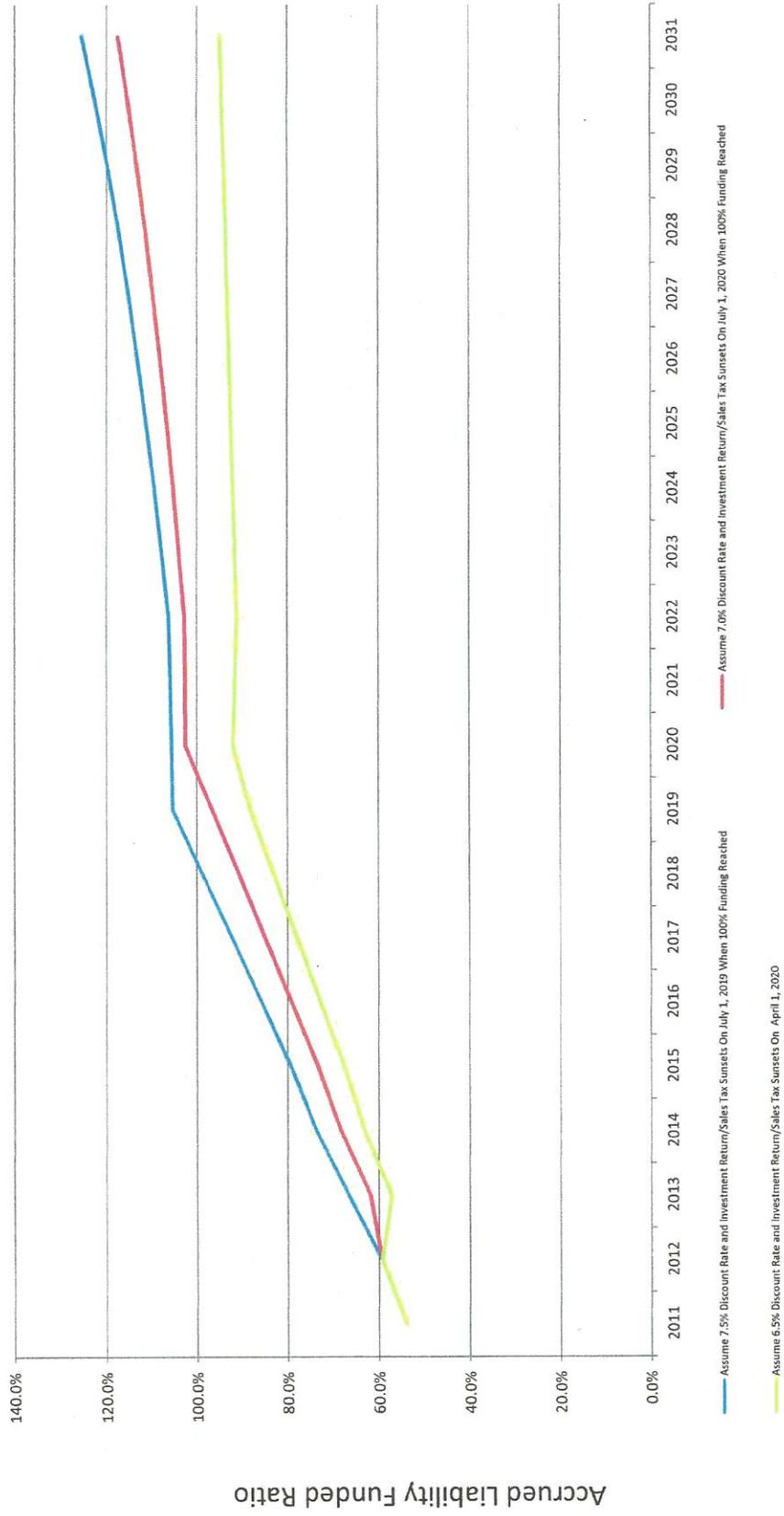
We were asked to provide some guidance on what the AFC is likely to be in the future. Under the method used to determine the AFC, it is expected to remain stable, *but only if the Plan experiences no gains and losses*. To the extent that the Plan experiences gains or losses, those will be amortized over the remaining Tier 1 payroll and the AFC will either decrease or increase.

As there becomes fewer and fewer Tier 1 employees (and as a result less Tier 1 payroll to amortize any unfunded liability over), the AFC calculation could become very volatile. Any unexpected changes in the unfunded liability would be amortized over a much smaller payroll.

Attachment – emails

# City of Springfield Police Officers and Fire Fighters' Retirement Fund

## Projected Funded Ratios - Updated for Results of 2012 Actuarial Valuation



## City of Springfield Police Officers and Fire Fighters Retirement Fund

Assume 7.5% Discount Rate and Investment Return  
Sales Tax Sunsets On July 1, 2019 When 100% Funding Reached

Updated for Results of 2012 Actuarial Valuation

Plan Year Ending June 30	Projected Sales Tax Revenue	Projected Employee Contributions	Projected City Contributions at 35% of Pay	Projected Unfunded Accrued Liability	EOY Funded Ratio
					53.9%
2012	27,869,481	2,996,883	7,872,249	144,933,775	59.3%
2013	28,148,176	2,666,818	6,991,657	124,383,270	66.6%
2014	28,429,658	2,833,435	6,778,552	102,352,376	73.6%
2015	28,713,954	2,745,587	6,568,391	83,846,101	79.2%
2016	29,001,094	2,628,907	6,289,252	60,003,216	85.7%
2017	29,291,105	2,503,966	5,990,349	34,109,587	92.1%
2018	29,584,016	2,359,424	5,644,555	6,025,749	98.7%
2019	29,879,856	2,231,150	5,337,680	0	105.3%
2020	0	2,087,222	4,993,353	0	105.5%
2021	0	1,920,401	4,594,261	0	105.8%
2022	0	1,741,177	4,165,495	0	106.2%
2023	0	1,548,130	3,703,661	0	107.7%
2024	0	1,360,592	3,255,005	0	109.3%
2025	0	1,157,915	2,770,131	0	111.1%
2026	0	959,832	2,296,248	0	113.0%
2027	0	773,459	1,850,381	0	115.0%
2028	0	611,308	1,462,460	0	117.3%
2029	0	485,220	1,160,814	0	119.7%
2030	0	382,471	915,003	0	122.4%
2031	0	277,201	663,161	0	125.4%

**City of Springfield Police Officers and Fire Fighters Retirement Fund**  
 Assume 7.0% Discount Rate and Investment Return  
 Sales Tax Sunsets On July 1, 2020 When 100% Funding Reached  
 Updated for Results of 2012 Actuarial Valuation

<u>Plan Year Ending June 30</u>	<u>Projected Sales Tax Revenue</u>	<u>Projected Employee Contributions</u>	<u>Projected City Contributions at 35% of Pay</u>	<u>Projected Unfunded Accrued Liability</u>	<u>EOY Funded Ratio</u>
					53.9%
2012	27,869,481	2,996,883	7,872,249	144,933,775	59.3%
2013	28,148,176	2,666,818	6,991,657	152,277,116	61.8%
2014	28,429,658	2,833,435	6,778,552	131,907,004	68.2%
2015	28,713,954	2,745,587	6,568,391	115,282,997	73.3%
2016	29,001,094	2,628,907	6,289,252	93,567,629	79.0%
2017	29,291,105	2,503,966	5,990,349	70,072,920	84.8%
2018	29,584,016	2,359,424	5,644,555	44,688,080	90.6%
2019	29,879,856	2,231,150	5,337,680	17,206,676	96.5%
2020	30,178,654	2,087,222	4,993,353	0	102.5%
2021	0	1,920,401	4,594,261	0	102.6%
2022	0	1,741,177	4,165,495	0	102.7%
2023	0	1,548,130	3,703,661	0	103.9%
2024	0	1,360,592	3,255,005	0	105.2%
2025	0	1,157,915	2,770,131	0	106.6%
2026	0	959,832	2,296,248	0	108.0%
2027	0	773,459	1,850,381	0	109.6%
2028	0	611,308	1,462,460	0	111.3%
2029	0	485,220	1,160,814	0	113.2%
2030	0	382,471	915,003	0	115.2%
2031	0	277,201	663,161	0	117.4%
2032	0	194,676	465,733	0	119.9%
2033	0	132,919	317,988	0	122.6%
2034	0	89,935	215,155	0	125.6%
2035	0	58,775	140,610	0	128.9%
2036	0	36,353	86,969	0	132.6%
2037	0	21,557	51,572	0	136.7%
2038	0	11,782	28,188	0	141.4%

## City of Springfield Police Officers and Fire Fighters Retirement Fund

Assume 6.5% Discount Rate and Investment Return

Sales Tax Sunsets On April 1, 2020

Updated for Results of 2012 Actuarial Valuation

Plan Year Ending June 30	Projected Sales Tax Revenue	Projected Employee Contributions	Projected City Contributions at 35% of Pay	Projected Unfunded Accrued Liability	EOY Funded Ratio
					53.9%
2012	27,869,481	2,996,883	7,872,249	144,933,775	59.3%
2013	28,148,176	2,666,818	6,991,657	183,372,317	57.2%
2014	28,429,658	2,833,435	6,778,552	164,623,671	63.0%
2015	28,713,954	2,745,587	6,568,391	149,823,132	67.5%
2016	29,001,094	2,628,907	6,289,252	130,153,457	72.7%
2017	29,291,105	2,503,966	5,990,349	108,948,830	77.9%
2018	29,584,016	2,359,424	5,644,555	86,122,610	83.0%
2019	29,879,856	2,231,150	5,337,680	61,494,760	88.2%
2020	22,633,991	2,087,222	4,993,353	42,685,552	92.0%
2021	0	1,920,401	4,594,261	45,917,867	91.6%
2022	0	1,741,177	4,165,495	49,215,385	91.1%
2023	0	1,548,130	3,703,661	46,999,087	91.6%
2024	0	1,360,592	3,255,005	44,688,580	92.0%
2025	0	1,157,915	2,770,131	42,302,325	92.4%
2026	0	959,832	2,296,248	39,868,294	92.8%
2027	0	773,459	1,850,381	37,392,320	93.2%
2028	0	611,308	1,462,460	34,912,706	93.6%
2029	0	485,220	1,160,814	32,381,947	94.0%
2030	0	382,471	915,003	29,744,875	94.4%
2031	0	277,201	663,161	27,052,040	94.8%
2032	0	194,676	465,733	24,293,587	95.3%
2033	0	132,919	317,988	21,446,396	95.8%
2034	0	89,935	215,155	18,487,176	96.3%
2035	0	58,775	140,610	15,385,359	96.8%
2036	0	36,353	86,969	12,137,414	97.4%
2037	0	21,557	51,572	8,716,028	98.1%
2038	0	11,782	28,188	5,120,472	98.9%



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## MEMORANDUM

TO: Janell Manley  
FROM: Mike Zwiener <sup>MZ</sup> & Mike Sudduth <sup>MS</sup>  
DATE: March 15, 2013  
RE: *Springfield Police & Fire Pension – Stochastic Funded Ratio Projections*

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In addition to the information provided in our March 11 memo, we were asked to provide stochastic projections of certain scenarios. Assuming that the sales tax ends when the Fund achieves a 100% funded ratio, we have calculated the probability that the Fund could remain at least 100% funded. This memo serves to provide the results of those projections.

Under a 7.5% discount rate and investment return assumption, the Fund is expected to reach the 100% funded level on July 1, 2019, at which time we assumed the sales tax would end. With a 7.0% discount rate and investment return assumption, it is expected to occur on July 1, 2020. Under the 6.5% scenario, 100% funding is not reached before the sales tax is required to end in 2020.

### Assumptions and Methods

We utilized the following assumptions and methods:

- Assets were projected deterministically to the point of 100% as shown in our March 11, 2013 memo
- After that, investment return was determined on a stochastic basis (1,000 trials) using Milliman's 2013 capital market assumptions as shown on the attached Exhibit 2



- We based the asset allocation (for all scenarios) on the “Asset/Manager Allocation Summary” as of December 31, 2012 prepared by the Fund’s Investment Consultant
- Liabilities and benefit payments were projected using the results of the 2012 actuarial valuation report.
- Employer contributions are projected to be 35% of payroll (only Tier 1 participants who remain in the Plan). Employee contributions are projected to be 14.63% of the same projected payroll, effective July 1, 2013, which is up from the current rate of 13.35%.
- Future sales tax receipts (until the point they are shut off) are projected assuming an annual increase of 1% over the year end June 30, 2012 amount.

### **Stochastic Results**

A table with the results of the projections is shown on Exhibit 1. As stated above, the capital market assumptions are shown on Exhibit 2. Under the 7.5% and 7.0% scenarios, there is a little over 50% chance of staying 100% once that level is achieved. We’ve also included a table on Exhibit 2 that shows the probability of staying at least 90% funded.

Under the 6.5% scenario the probability is lower due to the fact that the 100% funded level is not achieved before the sales tax ends. However, there is still a significant probability (assuming the current asset allocation remains in place) that the Fund could reach the 100% funded level.

Attachment – emails

## City of Springfield Police Officers and Fire Fighters Retirement Fund

### Likelihood of Achieving 100% Funded Ratio

	Probability of Being at Least 100% Funded On July 1,			
	2022	2024	2029	2034
7.5% Discount Rate and Investment Return/Tax Shuts off in 2019 Once 100% Funding Reached	58%	55%	54%	54%
7.0% Discount Rate and Investment Return/Tax Shuts off in 2020 Once 100% Funding Reached	53%	53%	57%	57%
6.5% Discount Rate and Investment Return/Tax Shuts off in 2020	26%	35%	44%	48%

	Probability of Being at Least 90% Funded On July 1,			
	2022	2024	2029	2034
7.5% Discount Rate and Investment Return/Tax Shuts off in 2019 Once 100% Funding Reached	78%	72%	64%	58%
7.0% Discount Rate and Investment Return/Tax Shuts off in 2020 Once 100% Funding Reached	78%	73%	67%	62%
6.5% Discount Rate and Investment Return/Tax Shuts off in 2020	52%	52%	55%	54%

## City of Springfield Police Officers and Fire Fighters Retirement Fund

### Capital Market Assumptions

	<u>Inflation</u>	<u>Cash</u>	<u>Core Fixed Income</u>	<u>U.S. Equity</u>	<u>Non U.S. Equity</u>	<u>Property</u>	<u>Commodities</u>
Mean	2.50%	2.96%	4.55%	8.68%	8.83%	7.01%	7.46%
Standard Deviation	2.02%	1.60%	6.50%	19.05%	20.55%	13.00%	19.70%
Correlation to:							
Inflation		0.49	(0.23)	(0.07)	(0.10)	0.18	0.31
Cash			0.11	0.00	(0.03)	0.08	0.05
Core Fixed Income				0.22	0.16	(0.10)	(0.14)
U. S. Equity					0.74	0.09	(0.09)
Non U.S. Equity						0.02	0.01
Property							0.04
Allocation to Asset Class *		0.00%	34.10%	34.20%	22.50%	4.50%	4.70%

\* From December 31, 2012 "Asset/Manager Allocation Summary" prepared by the Fund's Investment Consultant



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## MEMORANDUM

TO: Janell Manley  
FROM: Mike Zwiener <sup>MB</sup> & Mike Sudduth <sup>MS</sup>  
DATE: April 1, 2013  
RE: ***Springfield Police & Fire Pension – Additional Graphs Regarding Stochastic Funded Ratio Projections***

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As we discussed on our conference call last week, we have prepared several additional graphs to help document the results of the projections.

These graphs on based on the same results as presented in our March 15 memo.

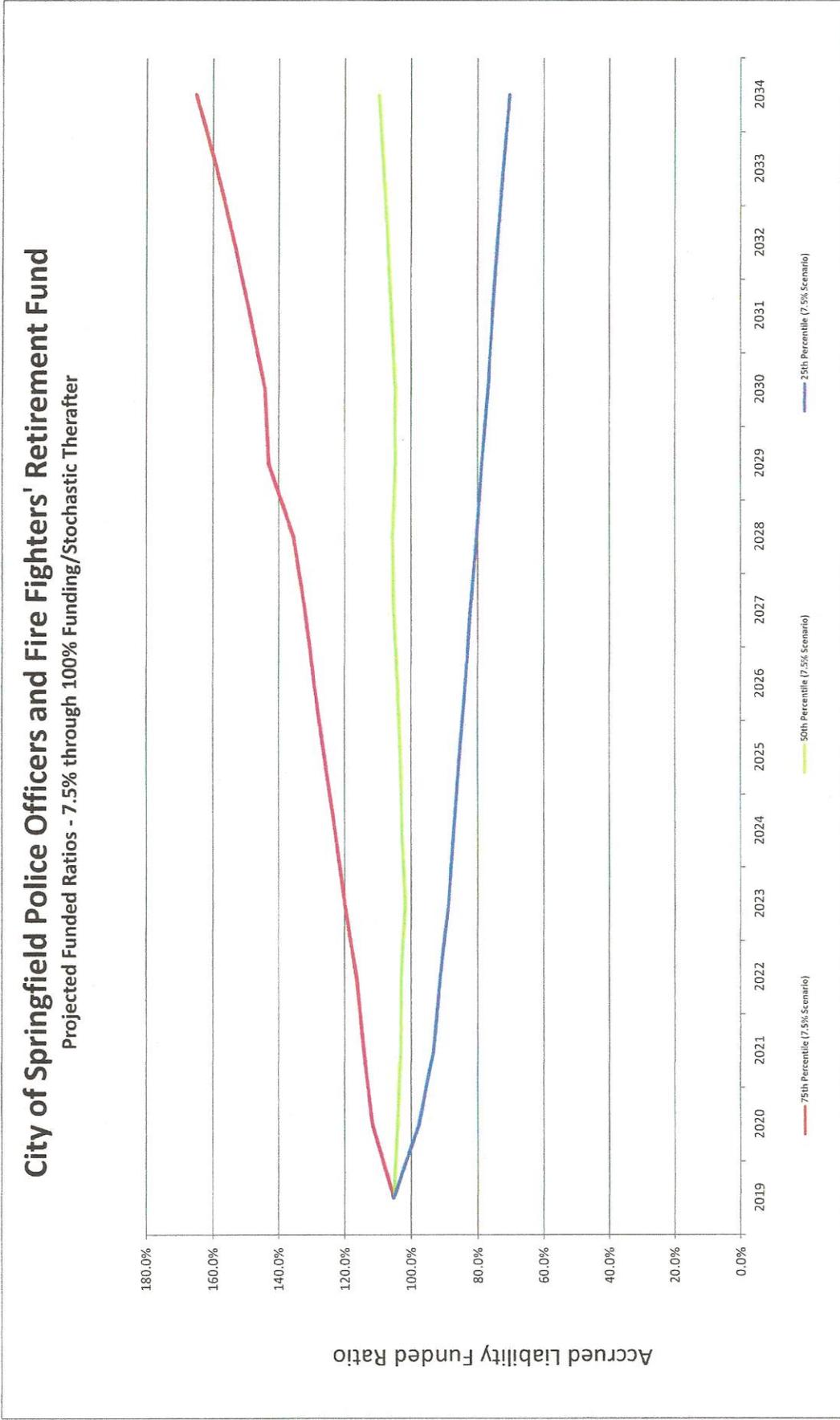
The first 3 graphs are of the funnel type that we discussed. They show how the 25<sup>th</sup>, 50<sup>th</sup>, and 75<sup>th</sup> percentiles of the funded ratio change over time for each of the three scenarios (7.5%, 7.0% and 6.5%).

The fourth graph breaks down the magnitude of the unfunded liability at July 1, 2034 under the 1,000 stochastic projections for each of the three scenarios. The far left of the graph documents the result that the Plan projects to stay 100% funded in a little over 50% of the projections for the 7.5% and 7.0% scenarios and a little under 50% of the projections in the 6.5% scenario.

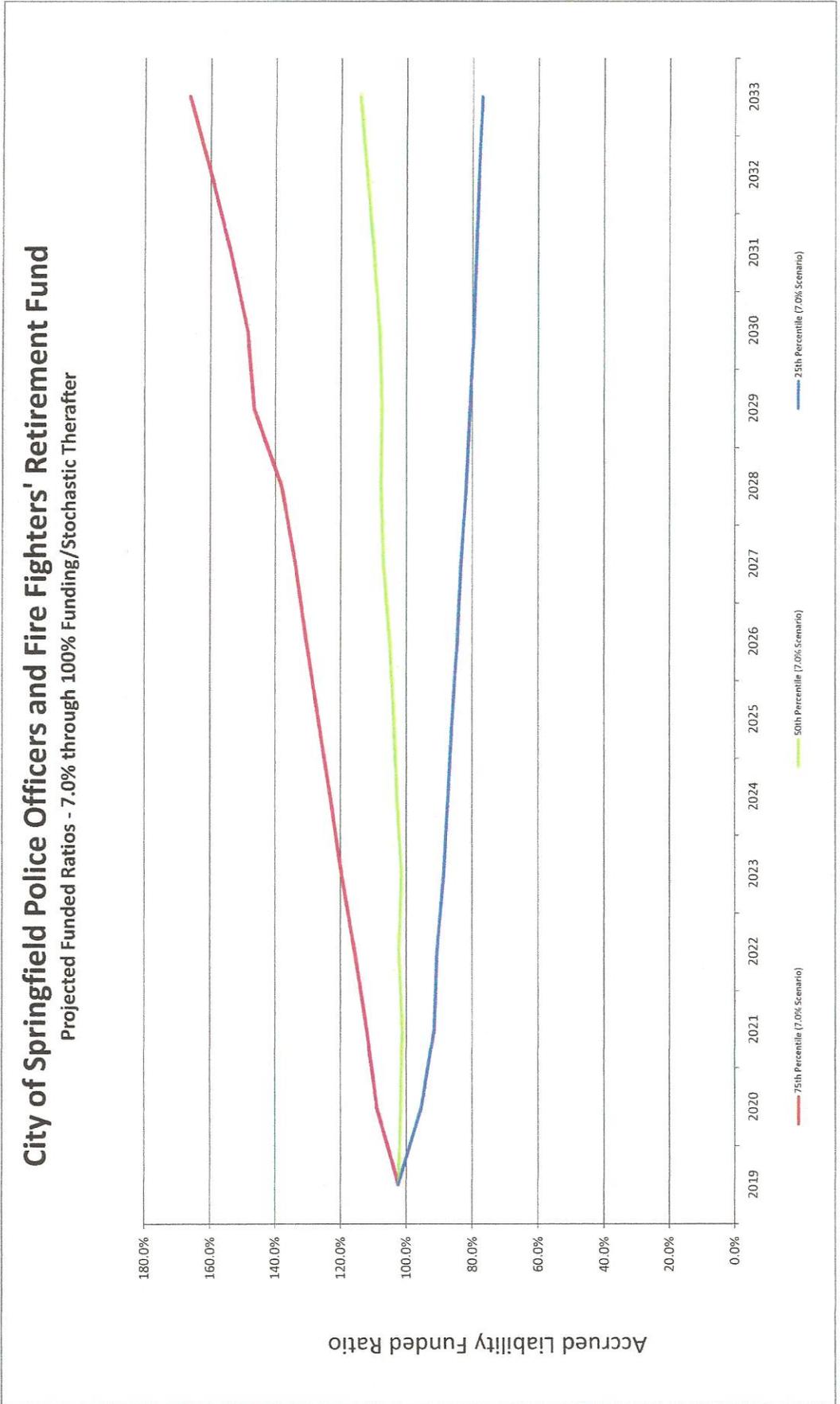
The far right side shows the number of projections where the unfunded liability on July 1, 2034 is over \$200,000,000.

Attachment – emails

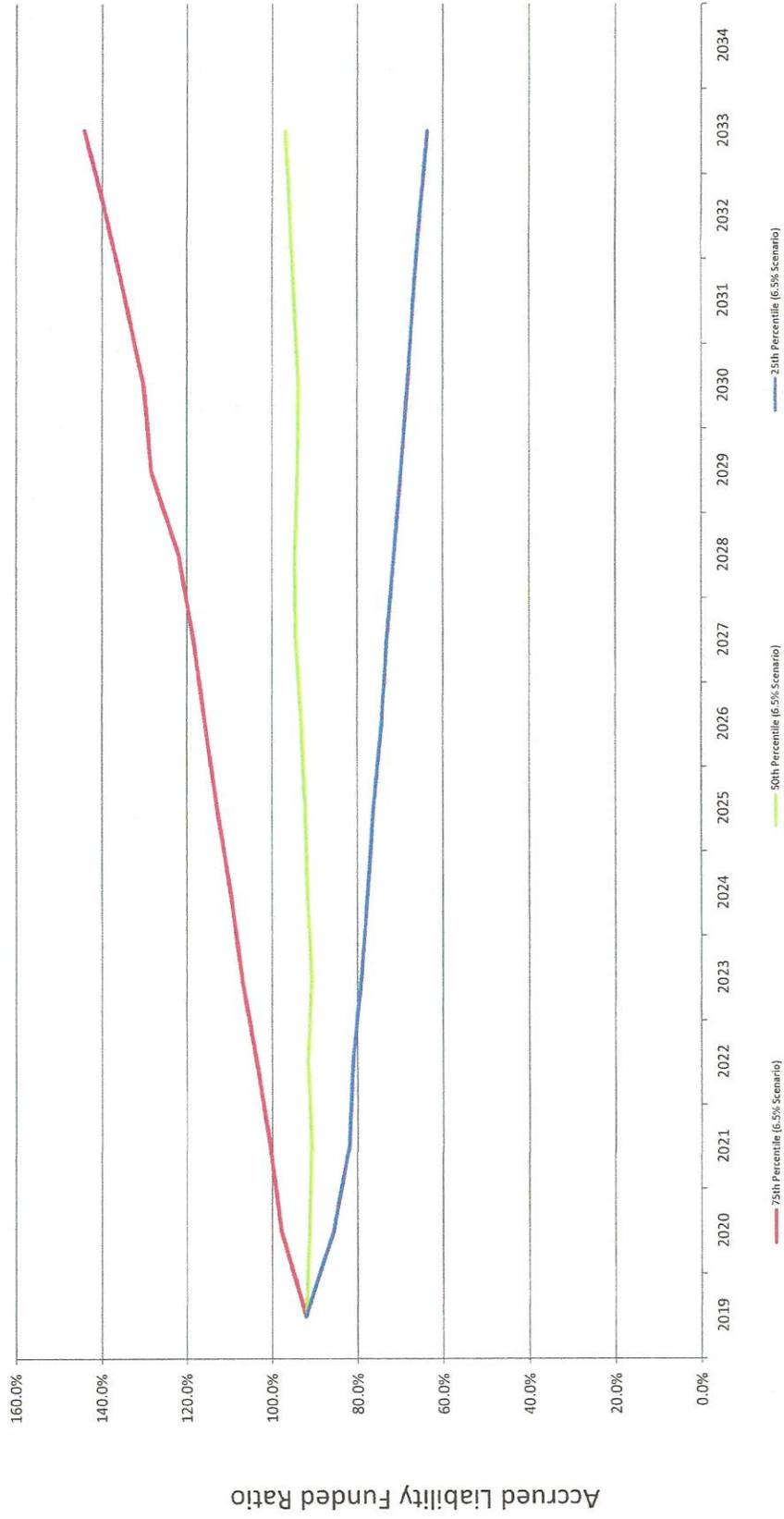
Graph 1



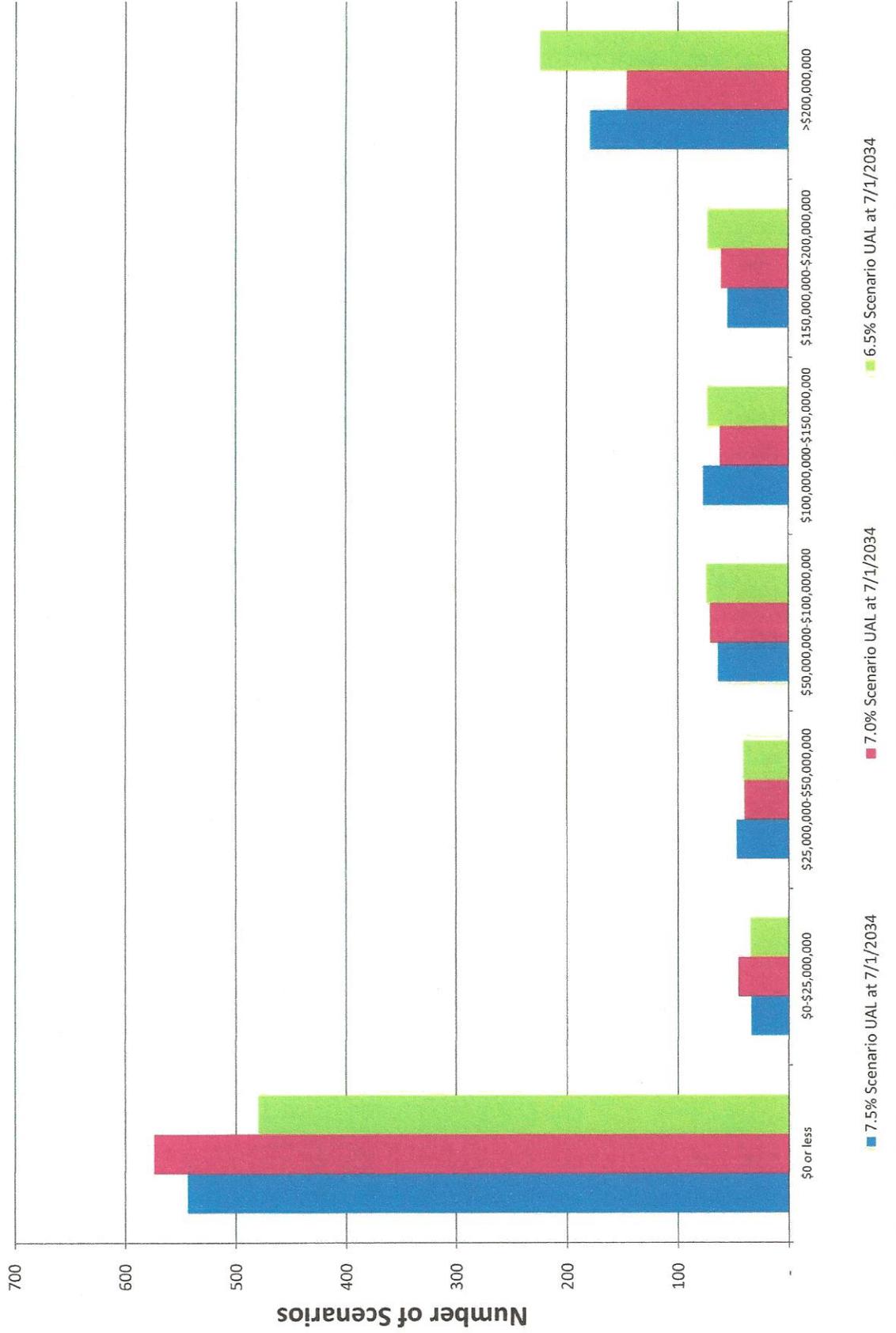
Graph 2



### City of Springfield Police Officers and Fire Fighters' Retirement Fund Projected Funded Ratios - 6.5% through April 1, 2020/Stochastic Thereafter



### City of Springfield Police Officers and Fire Fighters' Retirement Fund Breakdown of Unfunded Accrued Liability on July 1, 2034 Under 1,000 Stochastic Scenarios



TAB 6  
Calendar

# March 2013

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4 <i>Sales Tax Meeting</i>	5	6	7	8	9
10	11	12	13	14 <i>BOARD</i>	15	16
17	18	19 <i>Sales Tax Meeting</i>	20	21	22	23
24 <i>News-Leader article</i>	25	26 <i>Milliman Conference Call</i>	27	28	29 <i>Meet with Chamber of Commerce Update City DONE</i>	30
31						

# April 2013

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11 BOARD Present Subcommittee Final Report	12	13
14	15	16	17	18	19	20
21	22 Name Public Commit- tee Members—City, Chamber, Pension Board	23	24	25 Complete Power Point Board Presen- tation	26	27
28	29	30 Update Public on Fund Status Announce Campaign				

# May 2013

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1 Start Fundraising -Board and City -Chamber -Unions	2	3	4
5	6	7	8	9 BOARD Present Report to City Council	10	11
12	13	14	15	16	17	18
19	20	21	22	23 Chamber of Com- merce Board Presen- tation	24	25
26	27	28	29	30 Update Fund Status To Public Name Fund Members	31	

# June 2013

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6	7	8
9	10	11	12	13 BOARD Campaign Committee Update	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28 Update Fund Status to Public	29
30						

# July 2013

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18 BOARD Campaign Committee Update	19	20
21	22	23	24	25	26	27
28	29	30	31 Update Fund Status to Public			

# August 2013

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4	5	6	7	8 BOARD Campaign Committee Update	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30 Fund Update to Public	31

# September 2013

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12 <i>Board Launch Public Cam- paign</i>	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30 <i>Update Fund Status to Public</i>					

# October 2013

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10 <i>Board Committee Campaign Report</i>	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31 <i>Update Fund Status to Public</i>		

# November 2013

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14 BOARD Campaign Committee Update	15	16
17	18	19	20	21 Market Survey Schedule Campaign Presentations	22	23
24	25	26	27	28	29 Update Fund Status to Public	30

# December 2013

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
1		2	3	4	5	6	7
8		9	10	11	12 BOARD Committee Updates	13	14
15		16	17	18	19	20	21
22		23	24	25	26	27	28
29		30	31 Update Fund Status to Public				

# January 2014

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9 <i>BOARD Fund Updates Last Minute Adjust- ments to PublicCamp</i>	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31 <i>Update Fund Status to Public</i>	

# February 2014

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4 <i>ELECTION DAY</i>	5	6	7	8
9	10	11	12	13 <i>BOARD Campaign Update</i>	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28 <i>Update Fund Status to Public</i>	

# March 2014

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6	7	8
9	10	11	12	13 BOARD	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

# April 2014

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8 <i>Vote on 3/4 cent sales tax renewal</i>	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			